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Louisville EMS altering cardiac arrest protocol

By Jessie Halladay

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For years when paramedic Joe Hamilton found a patient was in cardiac arrest, he quickly used a defibrillator to shock the patient's heart.

But under a new strategy of treating cardiac arrest, Hamilton, a major with Louisville Metro Emergency Medical Services, will now perform two minutes of CPR before using the defibrillator.

It's a change in protocol designed to increase the chances of survival.

"It's giving a better chance to the patient," Hamilton said. "I expect it will make a difference in the future."

The benefits are already being seen in cities that have begun to use this technique.

A study published last month in the Journal of the American Medical Association showed that in two Arizona cities survival rates of cardiac arrest patients increased when they got minimally interrupted cardiac resuscitation, or MICR.

The study showed that survival went from 1.8 percent before emergency care providers were trained in MICR to 5.4 percent after they were trained and using the procedure.

The technique aims to maximize the blood flow to the heart and brain. That, in essence, prepares the heart to better respond to the shock from the defibrillator.

Dr. Ray Fowler, the chief of EMS operations for Dallas and the surrounding areas, said the technique is good, basic care that will net results nationwide.

"There are thousands of lives of people who will go home," Fowler said.

He said that within the next couple of years, the CPR-first procedure will become the standard of care for all emergency medical services.

Cardiac arrest, which is different than a heart attack, stops blood flow to the brain and heart. In a cardiac arrest, the heart stops beating and breathing stops. In a heart attack, there is a blockage that affects blood flow to the heart and can damage that muscle. A heart attack can lead to cardiac arrest.

After four minutes of cardiac arrest going untreated, irreversible damage can be done to the central nervous system and other organs.

For every minute without resuscitation, survival rates decrease by up to 10 percent.

Dr. Neal Richmond, director of Metro EMS, said by the time any EMS or fire crew arrives on a scene, they should assume that it has already been four to five minutes since the person collapsed and begin CPR to prime the heart for a shock.

Given that assumption, providers will do two minutes of CPR, followed by a defibrillation shock. Then another two minutes of CPR will be done, Richmond said. "We hope it's going to improve cardiac arrest survival hands down," Richmond said. "We're going to start seeing the benefits."

The only exception to starting with CPR would be if the EMS crew or fire department first responder saw the person collapse in cardiac arrest.

The new CPR-first protocol has been rolling out in Louisville for the past three months and is now being used in the field. Metro EMS has been training all local fire department personnel, who serve as EMT first-responders, to follow the same protocol.

"It's been needed for a long time," said Mark Little, an Okolona firefighter who has helped with the training.

Lt. Mary Taylor, a paramedic with Metro EMS, said the new protocol will take some practice to make routine, but is easy to learn and follow.

"It was a pretty big change," Taylor said. "I'd like to see it make a difference."

Reporter Jessie Halladay can be reached at (502) 582-4081.

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